

REMARKS

The Office Action dated September 29, 2009 was received and carefully reviewed.

Prior to this response, claims 1, 2, 4-9, and 12 were pending in the subject application. Presently, claims 1, 2, and 4-6 are hereby amended to clarify the invention, and not for reasons of patentability. Claims 3, 10, and 11 were canceled by a previous reply. No claims have been canceled, and no new claims have been added by way of this response. Thus, claims 1, 2, 4-9, and 12 remain pending in the subject application.

Support for the amendment independent claims 1, 2, 4, and 5 can be seen at least in FIG. 7C and paragraph [0082] of the publication of the subject application (U.S. Pat Pub. No.: 2004/0253896 A1). Thus, Applicant contends that the amendments to the claims do not include new matter.

Reconsideration and withdrawal of all currently pending rejections is hereby requested for at least the reasons advanced in detail below.

Claim Rejections – 35 U.S.C. § 112

Claims 1, 4, 6-9, and 12 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant contends that the amendment to claims obviates any perceived indefiniteness which was noted by the Examiner. Accordingly, Applicant respectfully request the withdrawal of the rejection under 35 U.S.C. § 112.

Double Patenting

Applicant contends that the amendments to the claims obviate the double patenting rejection of the claims presented by the Examiner. Accordingly, Applicant respectfully requests the withdrawal of this rejection.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 4, and 6 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Miyakawa (U.S. Patent No.: 6,051,150) (*Miyakawa*, hereinafter) in view of Yara (WO 02/40742 A1) (*Yara*, hereinafter) and optionally Datta et al. (U.S. Patent No.: 6,821,379 B2) (*Datta*, hereinafter). Claims 1, 4, and 6 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Miyakawa* in view of Koinuma et al. (U.S. Patent No.: 5,549,780) (*Koinuma*, hereinafter) and optionally in view of *Datta*. Claims 2, 5, 7, 8, and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Miyakawa* in view of *Yara*, optionally in view of *Datta*, and in further view of Inoue (JP 07-024579) (*Inoue*, hereinafter). Claims 2, 5, 7, 8, and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Miyakawa* in view of *Koinuma*, optionally in view of *Datta*, and in further view of *Inoue*. Claim 9 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Miyakawa* in view of *Yara*, optionally in view of *Datta*, and in further view of Seki (JP 11-340129) (*Seki*, hereinafter). Claim 9 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Miyakawa* in view of *Koinuma*, optionally in view of *Datta*, and in further view of *Seki*. Applicant traverses the rejections for at least the reasons set forth below.

The present independent claims 1, 2, 4, and 5, and the claims dependent therefrom, are patently distinguishable over *Miyakawa*, *Yara*, *Koinuma*, *Inoue*, *Seki*, and *Datta*, since *Miyakawa*, *Yara*, *Koinuma*, *Inoue*, *Seki*, and *Datta*, either taken alone or in combination, fail to disclose, teach or suggest all of the features recited in the pending claims. For example, independent claim 1 (emphasis added) recites:

1. A manufacturing method of a display device in a plasma treatment chamber comprising the step of:

forming a wiring by partially etching a conductor film over a substrate by discharging a plasma to the plasma treatment chamber from a plasma treatment means having one set of electrodes contained therein for generating the plasma at a pressure of 5 to 800 Torr from a reactive gas introduced to the plasma treatment means;

providing the plasma treatment in the plasma treatment chamber;

providing one electrode of the set of electrodes which surrounds the other electrode of the set of electrodes; and

providing a distal portion of the one electrode of the set of electrodes being toward the other electrode of the set of electrodes line,

wherein the distal portion of the one electrode of the set of electrodes has a sharp angle shape.

Independent claim 2 (emphasis added) recites:

2. A manufacturing method of a display device in a plasma treatment chamber comprising the step of:

forming a wiring by partially etching a conductor film over a substrate by discharging a plasma to the plasma treatment chamber from a plasma treatment means having a plurality of sets of electrodes contained therein for generating the plasma at a pressure of 5 to 800 Torr from a reactive gas introduced to the plasma treatment means;

providing the plasma treatment in the plasma treatment chamber;

providing one electrode of the plurality of sets of electrodes which surrounds the other electrode of the plurality of sets of electrodes, respectively; and

providing a distal portion of the one electrode of the plurality of sets of electrodes being toward the other electrode of the plurality of sets of electrodes line, respectively,

wherein the distal portion of the one electrode of the plurality of sets of electrodes has a sharp angle shape.

Independent claim 4 (emphasis added) recites:

4. A manufacturing method of a display device comprising

the steps of:

- forming a conductor film over a substrate;
- forming a resist mask over the conductor film;
- partially etching the conductor film at a pressure of 5 to 800 Torr by discharging a plasma to a plasma treatment chamber from a plasma treatment means having one set of electrodes contained therein for generating the plasma from a reactive gas introduced to the plasma treatment means, over the resist mask thereby forming a wiring;
- providing the plasma treatment in the plasma treatment chamber;
- providing one electrode of the set of electrodes which surrounds the other electrode of the set of electrodes; and
- providing a distal portion of the one electrode of the set of electrodes being toward the other electrode of the set of electrodes line,**
- wherein the distal portion of the one electrode of the set of electrodes has a sharp angle shape.**

Independent claim 5 (emphasis added) recites:

5. A manufacturing method of a display device comprising the steps of:
- forming a conductor film over a substrate;
 - forming a resist mask over the conductor film;
 - partially etching the conductor film at a pressure of 5 to 800 Torr by discharging a plasma to a plasma treatment chamber from a plasma treatment means having a plurality of sets of electrodes contained therein for generating the plasma from a reactive gas introduced to the plasma treatment means, over the resist mask thereby forming a wiring;
 - providing the plasma treatment in the plasma treatment chamber;

providing one electrode of the plurality of sets of electrodes which surrounds the other electrode of the plurality of sets of electrodes, respectively; and

providing a distal portion of the one electrode of the plurality of sets of electrodes being toward the other electrode of the plurality of sets of electrodes line, respectively,

wherein the distal portion of the one electrode of the plurality of sets of electrodes has a sharp angle shape.

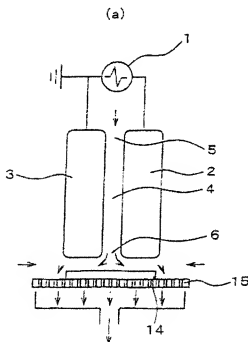
As seen above, independent claims 1 and 4 are directed to, *inter alia*, a manufacturing method of a display device including the features of providing a distal portion of the one electrode of the set of electrodes being toward the other electrode of the set of electrodes line, wherein the distal portion of the one electrode of the set of electrodes has a sharp angle shape. As also seen above, independent claims 2 and 5 are directed to, *inter alia*, a manufacturing method of a display device including the features of providing a distal portion of the one electrode of the plurality of sets of electrodes being toward the other electrode of the plurality of sets of electrodes line, respectively, wherein the distal portion of the one electrode of the plurality of sets of electrodes has a sharp angle shape.

Applicant respectfully submits that *Miyakawa, Yara, Koinuma, Inoue, Seki, and Datta* either taken alone or in combination, fail to disclose, teach, or suggest a manufacturing method of a display device including the features of providing a distal portion of the one electrode of the set of electrodes being toward the other electrode of the set of electrodes line, wherein the distal portion of the one electrode of the set of electrodes has a sharp angle shape, as recited in independent claims 1 and 4. Furthermore, Applicant respectfully submits that *Miyakawa, Yara, Koinuma, Inoue, Seki, and Datta*, either taken alone or in combination, fail to disclose, teach, or suggest a manufacturing method of a display device including the features of providing a distal portion of the one electrode of the plurality of sets of electrodes being toward the other electrode of the plurality of sets of electrodes line, respectively, wherein the distal portion of the one electrode of the plurality of sets of electrodes has a sharp angle shape, as recited in independent

claims 2 and 5.

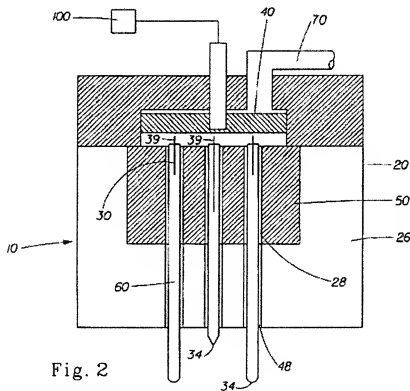
On page 3 of the Office Action, the Examiner correctly admits that “Miyakawa does not explicitly [teach] that the plasma means has one set of electrodes, wherein one electrode surrounds the other electrode”, but rather “Miyakawa only teaches a pair of electrodes placed vertically disposed opposite to each other (Figs. 1 and 6).” The Examiner is reliant on *Yara*, or optionally *Datta* for making up for the deficiencies of *Miyakawa*.

As also admitted by the Examiner, *Yara* merely teaches “a parallel flat plate type electrode set up” (see the Office Action, e.g., page 3). As seen below in the copy of FIG. 8(a) from *Yara*, the distal portions of both electrodes 2 and 3 are blunt, and are not “toward the other electrode” (the electrodes in FIG. 8(b) also have the same blunt shape as seen below), as recited in present independent claims 1, 2, 4, and 5. Consequently, *Yara* fails to remedy the deficiencies of *Miyakawa*.



Furthermore, *Datta*, upon whom the Examiner is optionally reliant, appears to disclose a

plasma-generating apparatus 10 including a chamber 20, at least one powerable electrode 30 optionally disposed at least partially in chamber 20, and at least one groundable electrode 50 spaced at a distance from the powered electrode 30 (see *Datta*, e.g., FIG. 2 and col. 3, ll. 41-46). As seen in the copy of FIG. 2 of *Datta* below, neither the distal portions of electrodes 30 nor electrodes 50 include portions that are “toward the other electrode”, as recited in present independent claims 1, 2, 4, and 5. Consequently, *Datta* fails to remedy the shortcomings of *Miyakawa* and *Yara*.



Moreover, Applicant contends that neither *Koinuma*, *Inoue*, nor *Seki* make up for the deficiencies of *Miyakawa*, *Yara*, and/or *Datta*. Thus, neither *Miyakawa*, *Yara*, *Koinuma*, *Inoue*, *Seki*, nor *Datta*, either taken alone or in combination, anticipate or render obvious all the features recited in the independent claims 1, 2, 4, and 5. Therefore, the Examiner has failed to provide a proper *prima facie* case of obviousness in the rejection of the claims. Accordingly, Applicant respectfully requests that the rejection of independent claims 1, 2, 4, and 5 under 35 U.S.C. §

103(a) be withdrawn, and that independent claims 1, 2, 4, and 5 be allowed.

Claims 6-9 and 12 are allowable at least by virtue of their dependency from one of the independent claims, but also because they are distinguishable over the cited prior art.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney/agent to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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